

Introducing Telemetrics

Darryl Woodford, Katie Prowd, Axel Bruns, Ben Goldsmith, Stephen Harrington, Jean Burgess

Queensland University of Technology

Association of Internet Researchers Conference
(IR15)

Daegu, South Korea
24 October 2014



Social Media
Research Group



arc centre of excellence
for creative industries
and innovation

INTRODUCTION

- The State of Play
- From Sabermetric to Telemetrics
- Social Media Audiences & Australian Telemetrics
- The Hypometer™ for industry metrics
- The Big Brother Hypometer™



NIELSEN SOCIALGUIDE TWITTER RATINGS

10 Nielsen Twitter TV Ratings							
Weekly Top Ten 2/03 - 2/09							
Subscribe							
RANK	NETWORK	PROGRAM	DATE	UNIQUE AUDIENCE (000)	IMPRESSIONS (000)	UNIQUE AUTHORS (000)	TWEETS (000)
1	AMC	The Walking Dead	2/09/14	7,494.1	68,364.9	526.2	1,240.1
2	CBS	The Beatles: The Night That Changed America - A Grammy Salute	2/09/14	5,246.2	22,235.6	142.0	259.9
3	ABC Family	Pretty Little Liars	2/04/14	4,441.2	24,242.6	177.2	443.6
4	ABC	The Bachelor	2/03/14	3,369.4	26,270.7	69.7	133.9
5	MTV	Teen Wolf	2/03/14	2,998.5	13,869.5	121.4	386.1
6	NBC	The Tonight Show with Jay Leno	2/06/14	2,843.7	9,904.5	52.4	79.4
7	FOX	American Idol	2/05/14	2,122.4	5,269.3	44.6	73.1
8	USA	WWE Monday Night RAW	2/03/14	2,035.5	12,079.4	53.1	199.2
9	VH1	Love & Hip Hop	2/03/14	1,915.1	20,622.0	130.8	428.0
10	NBC	Sports Illustrated Swimsuit: 50 Years of Beautiful	2/03/14	1,457.5	3,032.3	20.3	24.9



NIelsen SOCIALGUIDE TWITTER RATINGS

10 Nielsen Twitter TV Ratings							
Weekly Top Ten 2/03 - 2/09							
RANK	NETWORK	PROGRAM	DATE	UNIQUE AUDIENCE (000)	IMPRESSIONS (000)	UNIQUE AUTHORS (000)	TWEETS (000)
1	AMC	The Walking Dead	2/09/14	7,494.1	68,364.9	526.2	1,240.1
2	CBS	The Beatles: The Night That Changed America - A Grammy Salute	2/09/14	5,246.2	22,235.6	142.0	259.9
3	ABC Family	Pretty Little Liars	2/04/14	4,441.2	24,242.6	177.2	443.6
4	ABC	The Bachelor	2/03/14	3,369.4	26,270.7	69.7	133.9
5	MTV	Teen Wolf	2/03/14	2,998.5	13,869.5	121.4	386.1
6	NBC	The Tonight Show with Jay Leno	2/06/14	2,843.7	9,904.5	52.4	79.4
7	FOX	American Idol	2/05/14	2,122.4	5,269.3	44.6	73.1
8	USA	WWE Monday Night RAW	2/03/14	2,035.5	12,079.4	53.1	199.2
9	VH1	Love & Hip Hop	2/03/14	1,915.1	20,622.0	130.8	428.0
10	NBC	Sports Illustrated Swimsuit: 50 Years of Beautiful	2/03/14	1,457.5	3,032.3	20.3	24.9

Cable Channel vs Major Network?



NIELSEN SOCIALGUIDE TWITTER RATINGS

10 Nielsen Twitter TV Ratings							
Weekly Top Ten 2/03 - 2/09							
RANK	NETWORK	PROGRAM	DATE	UNIQUE AUDIENCE (000)	IMPRESSIONS (000)	UNIQUE AUTHORS (000)	TWEETS (000)
1	AMC	The Walking Dead	2/09/14	7,494.1	68,364.9	526.2	1,240.1
2	CBS	The Beatles: The Night That Changed America - A Grammy Salute	2/09/14	5,246.2	22,235.6	142.0	259.9
3	ABC Family	Pretty Little Liars	2/04/14	4,441.2	24,242.6	177.2	443.6
4	ABC	The Bachelor	2/03/14	3,369.4	26,270.7	69.7	133.9
5	MTV	Teen Wolf	2/03/14	2,998.5	13,869.5	121.4	386.1
6	NBC	The Tonight Show with Jay Leno	2/06/14	2,843.7	9,904.5	52.4	79.4
7	FOX	American Idol	2/05/14	2,122.4	5,269.3	44.6	73.1
8	USA	WWE Monday Night RAW	2/03/14	2,035.5	12,079.4	53.1	199.2
9	VH1	Love & Hip Hop	2/03/14	1,915.1	20,622.0	130.8	428.0
10	NBC	Sports Illustrated Swimsuit: 50 Years of Beautiful	2/03/14	1,457.5	3,032.3	20.3	24.9

Cable Channel vs Major Network?

Why is having more followers the important statistic?

(Follower counts are problematic)



BUT ALSO

2.5 hour
special

1 hour
show

Cable
Channel vs
Major
Network?

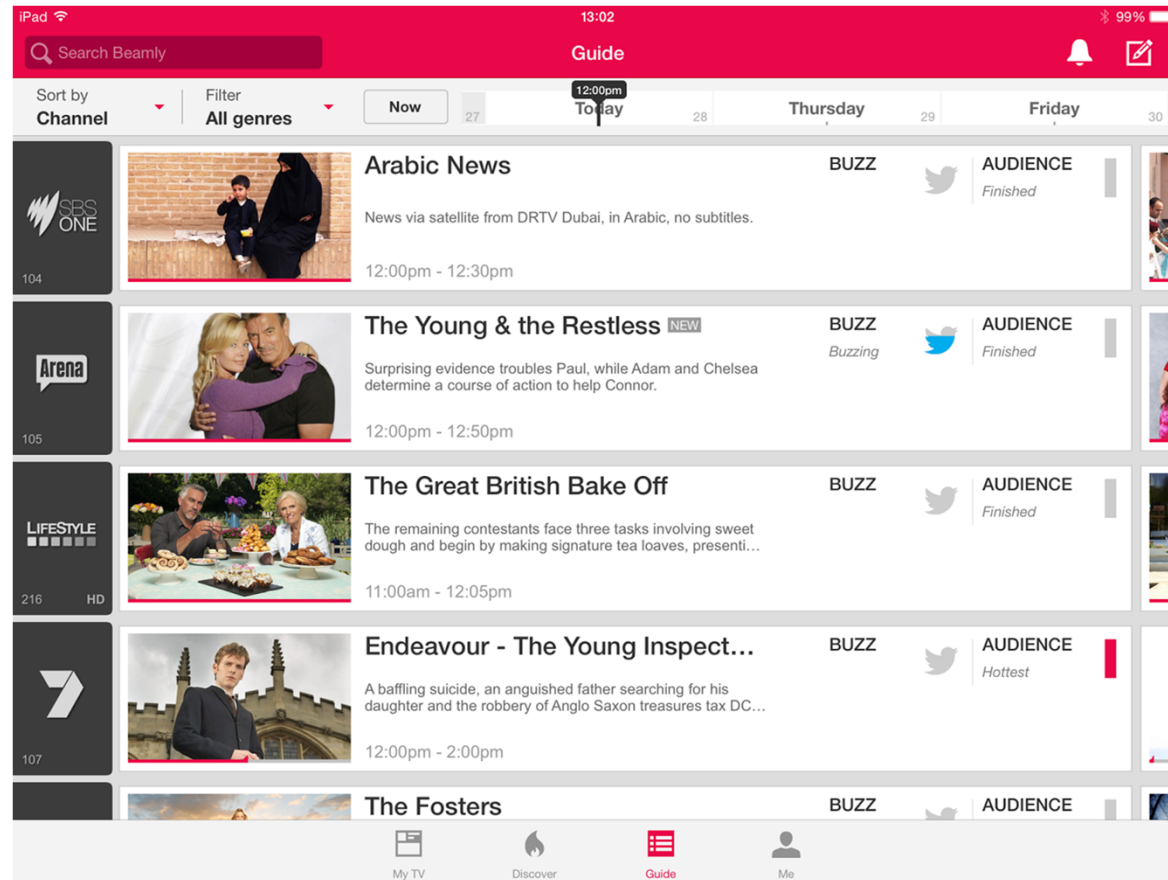
10 Nielsen Twitter TV Ratings							
Weekly Top Ten 2/03 - 2/09							
RANK	NETWORK	PROGRAM	DATE	UNIQUE AUDIENCE (000)	IMPRESSIONS (000)	UNIQUE AUTHORS (000)	TWEETS (000)
1	AMC	The Walking Dead	2/09/14	7,494.1	68,364.9	526.2	1,240.1
2	CBS	The Beatles: The Night That Changed America - A Grammy Salute	2/09/14	5,246.2	22,235.6	142.0	259.9
3	ABC Family	Pretty Little Liars	2/04/14	4,441.2	24,242.6	177.2	443.6
4	ABC	The Bachelor	2/03/14	3,369.4	26,270.7	69.7	133.9
5	MTV	Teen Wolf	2/03/14	2,998.5	13,869.5	121.4	386.1
6	NBC	The Tonight Show with Jay Leno	2/06/14	2,843.7	9,904.5	52.4	79.4
7	FOX	American Idol	2/05/14	2,122.4	5,269.3	44.6	73.1
8	USA	WWE Monday Night RAW	2/03/14	2,035.5	12,079.4	53.1	199.2
9	VH1	Love & Hip Hop	2/03/14	1,915.1	20,622.0	130.8	428.0
10	NBC	Sports Illustrated Swimsuit: 50 Years of Beautiful	2/03/14	1,457.5	3,032.3	20.3	24.9

Why is
having more
followers the
important
statistic?

(Follower
counts are
problematic)



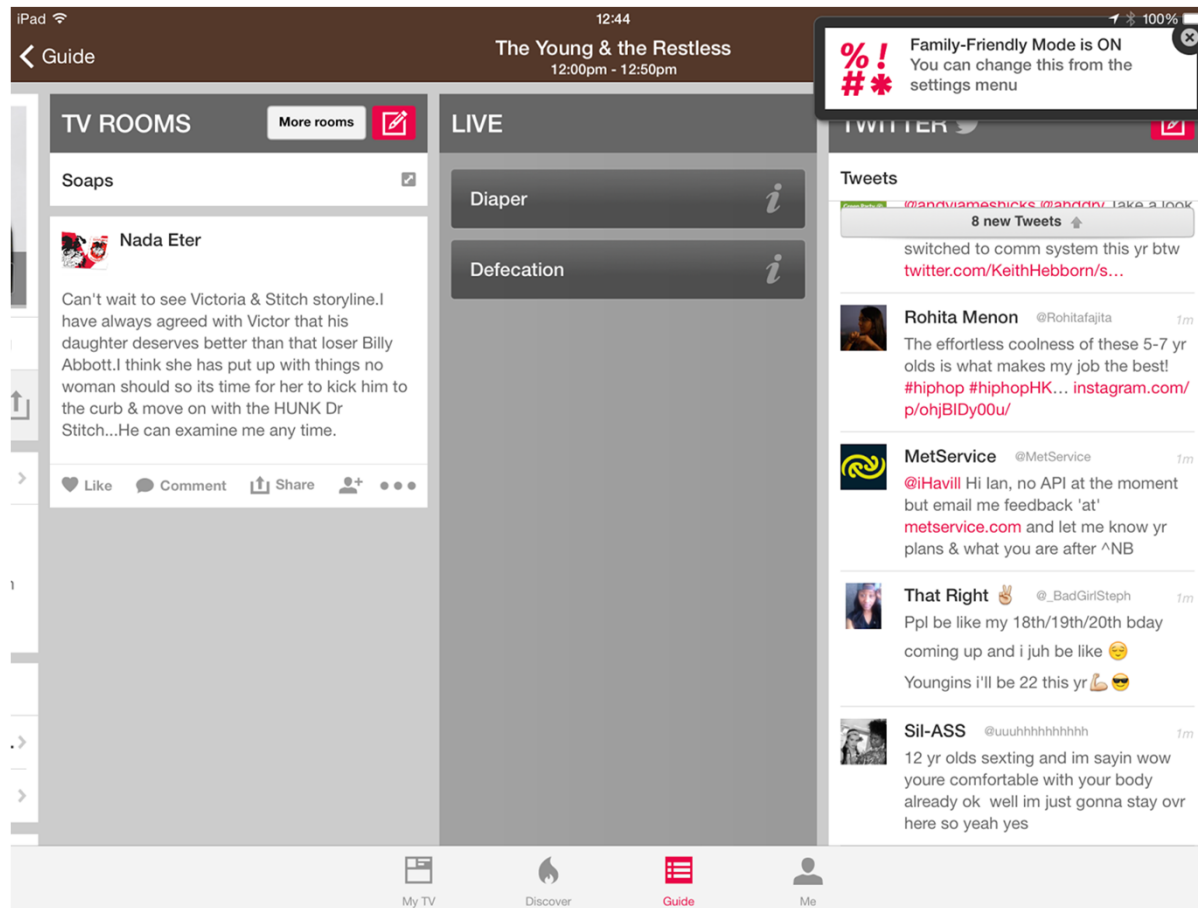
AND YOU NEED TO GET IT RIGHT



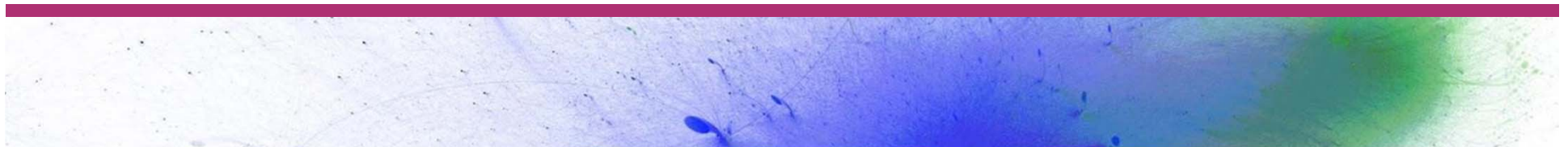
Beamly Screenshot: 31 May 2014



AND YOU NEED TO GET IT RIGHT

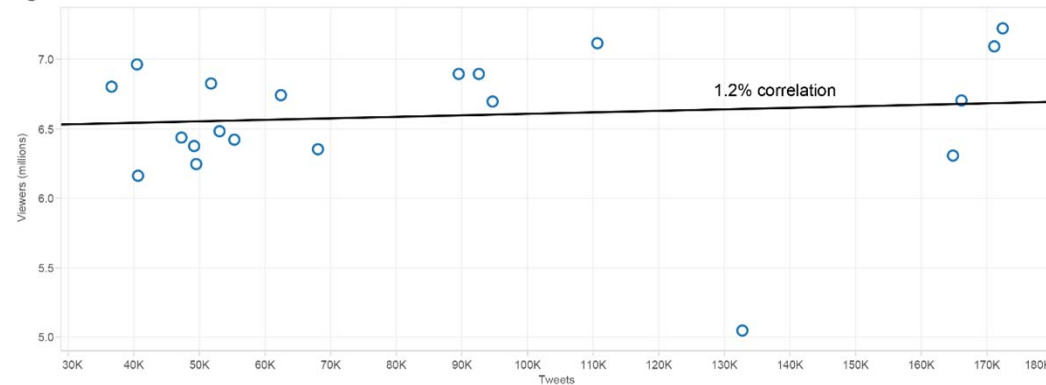


Beamly Screenshot: 31 May 2014

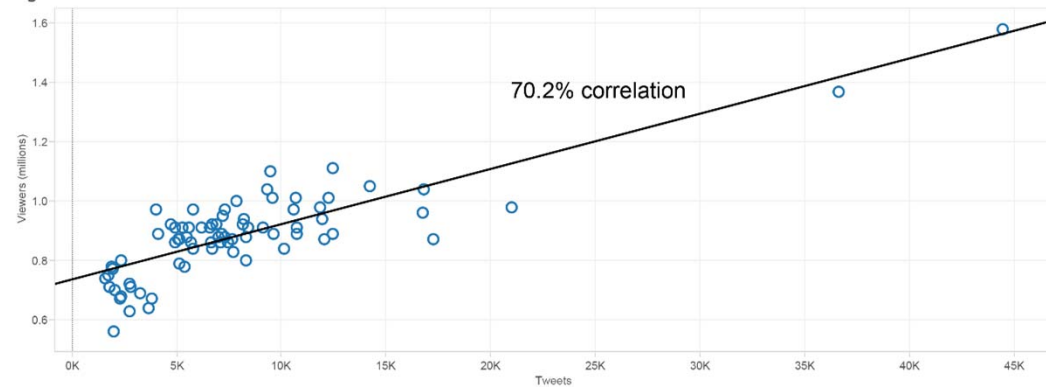


BIG BROTHER USA vs AU (AUDIENCE)

Big Brother US



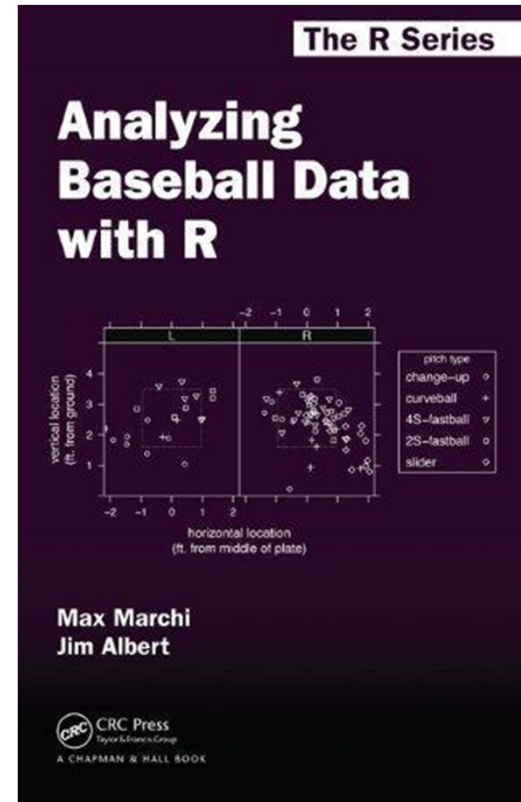
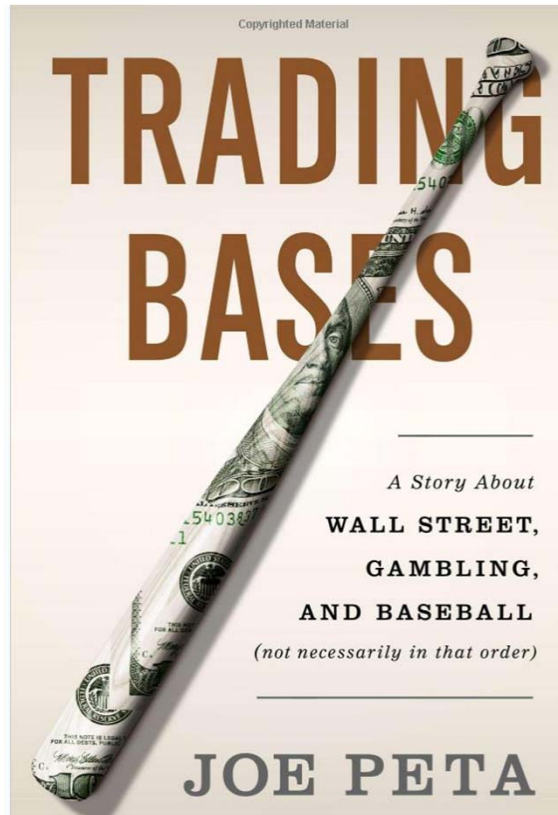
Big Brother AU



- In US, for Big Brother (& shows generally), there is little correlation between viewers and tweets.
- In Australia, for Big Brother and other shows in our one-week pilots, high correlation between viewer count and tweets.
- Highlights that applying US models to Australia is not possible

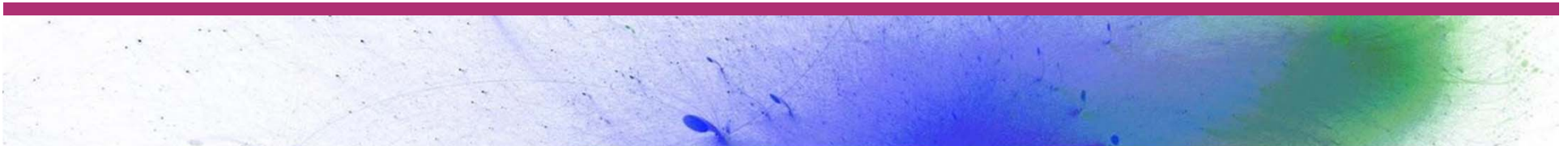


SABERMETRICS



BASIC vs ADVANCED METRICS

- From ERA to xERA: Includes factors under pitchers control (hits, walks etc) other than Earned Runs..
- From xERA to FIP: Accounts for the shortcoming of fielders beyond a scorers adjudication of errors.
- Replacement Value: Just as a 'free agent' in baseball has some minimal level of performance, anything shown at 8pm on CBS or Nine will get *some* viewers.. Ratings shouldn't start at 0 (unless it's a Houston Astros game)
- Essentially, we shouldn't just take the raw numbers..

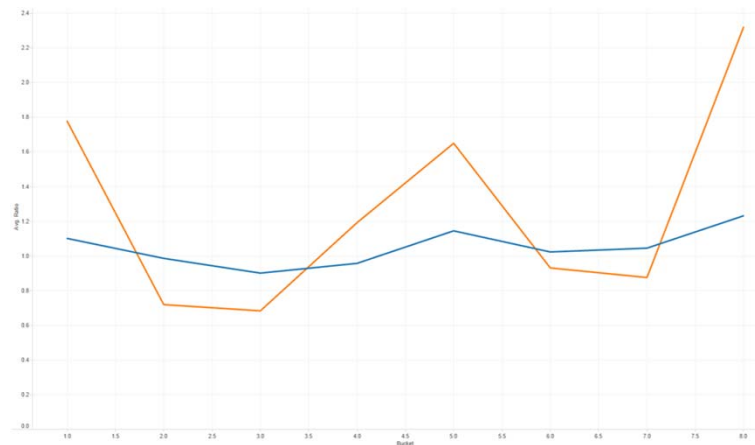
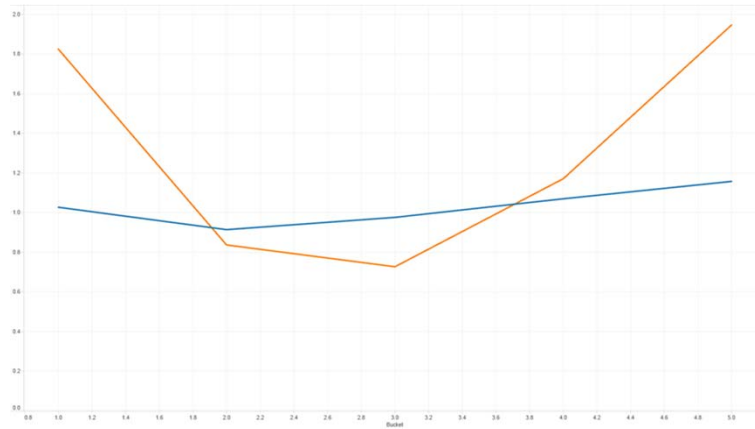


THREE KEY METRICS

- Weighted Tweet Index - Measured Engagement with a broadcast through social media within the context of country, network & programming slot
- Excitement Index - Measures 'excitement' across the audience base through social media, without regard to volume, at different levels of granularity (per episode, per segment, per minute etc)
- Hype Score - Measures engagement between episodes through social media within the context of country, network, etc..



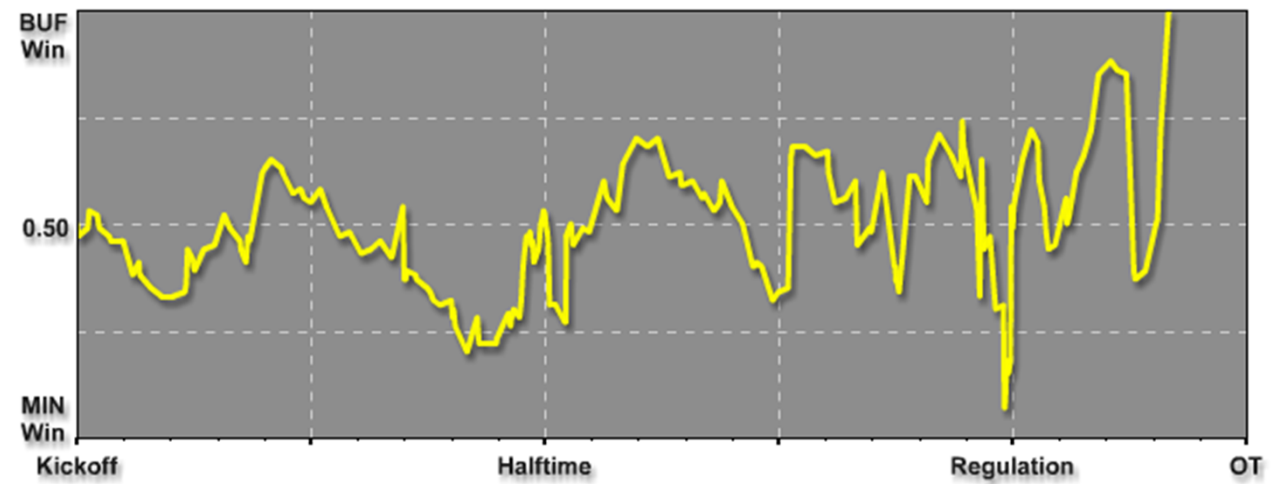
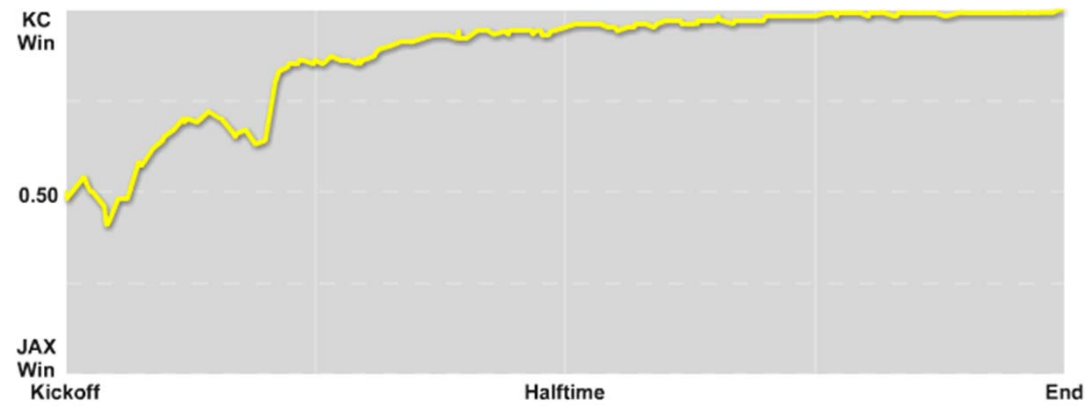
SEASONAL MODELS



- Blue Line represents the ratio of total viewers, Orange Line represents ratio of tweets (to season average per show).
- In both one run seasons (top) and those with mid-season break (bottom), tweets are highly exaggerated version of traditional ratings model.
- In other words: Users tweet much more around premieres & finales than regular shows. Metrics must account for this.

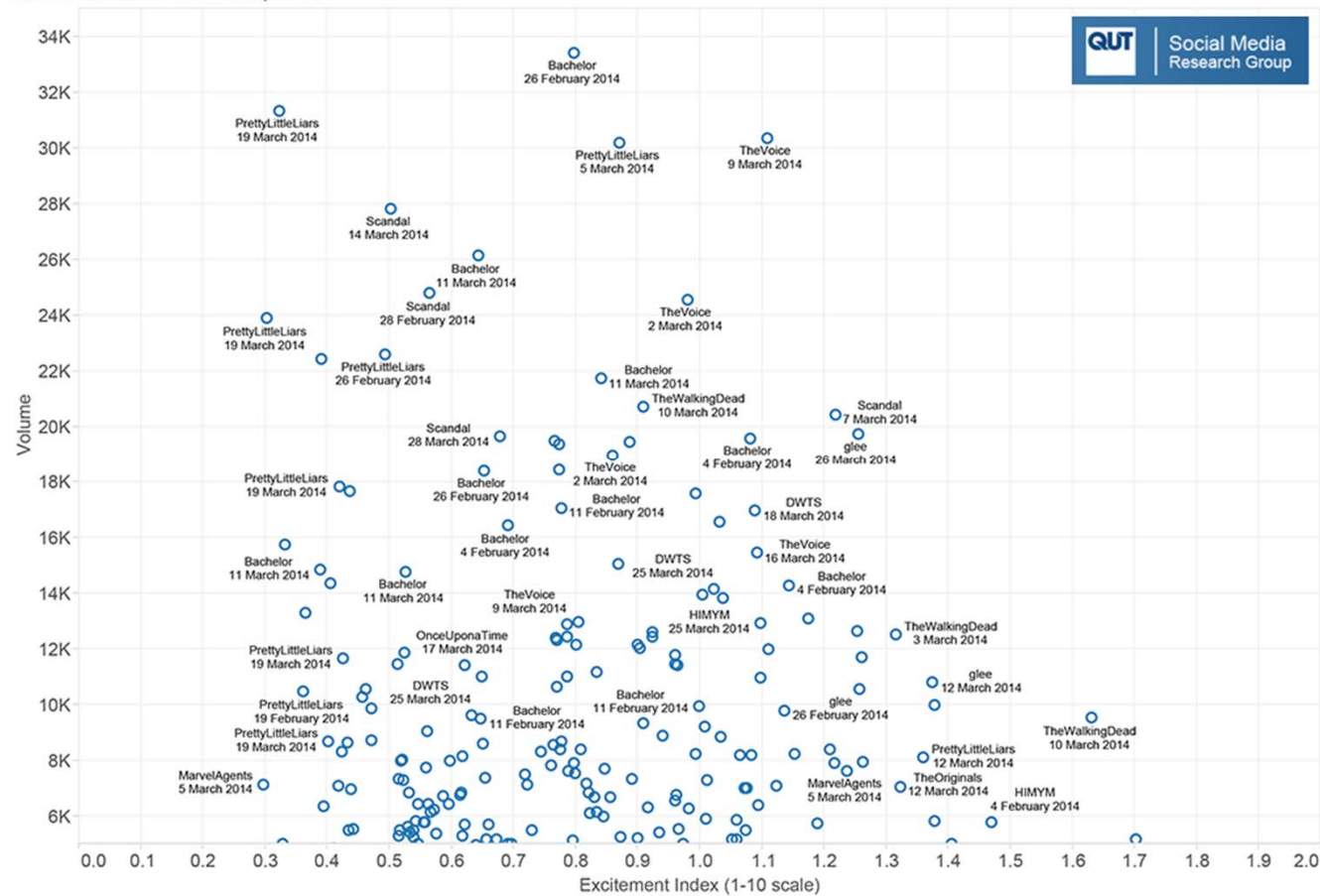


EXCITEMENT INDEX



EXCITEMENT INDEX

Excitement Index - Vol > 5000, EI < 2



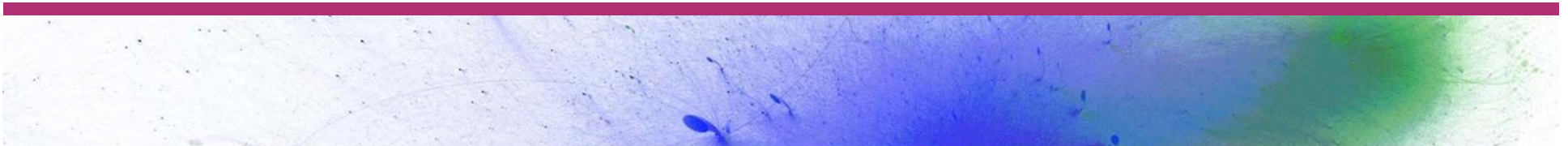
INDUSTRY RESISTANCE

- Across entertainment industries in general, appears to be a resistance to 'Big Data' - e.g. HalfBrick (Banks & Woodford, 2013)
- Whether game designers, network executives or Hollywood decision makers, 'artistic vision' seems dominant when deciding which game to make, which pilot to pick up, which movie to dedicate millions to marketing.
- Clear parallels to sabermetric movement in US sports -- Moneyball etc.
- "Facts that challenge basic assumptions—and thereby threaten people's livelihood and self-esteem—are simply not absorbed. The mind does not digest them. This is particularly true of statistical studies of performance, which provide base-rate information that people generally ignore when it clashes with their personal impressions from experience." (Kahneman, 2011)



HYPE IN THE LITERATURE

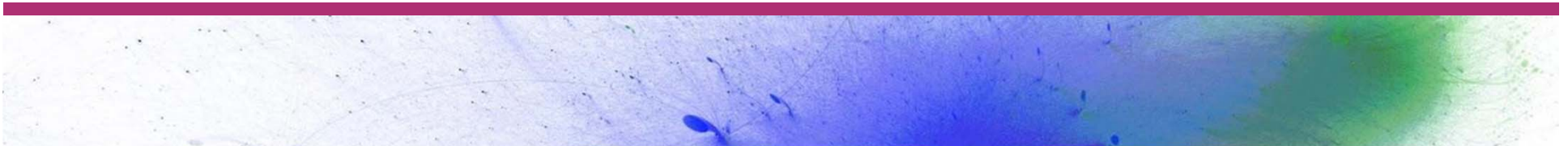
- “At four weeks out, trailer search volume on Google coupled with both the franchise status of the movie and seasonality can predict opening weekend box office revenue with *94% accuracy*.” (“Quantifying Movie Magic with Google Search”, 2012)
- “[S]ome reality programmes are engaged in the intentional production of a perfume of scandal and controversy” (Biltereyst, 2004 , p. 123).
Similar pattern with UK, Australian & US Reality shows (c.f. Woodford & Prowd, 2014)
- “[E]x ante analysis can produce reasonable estimates that allow studios to decide whether to commit additional financing and make appropriate adjustments to marketing promotions to try and induce greater gross upon release” (Kaplan, 2012, p. 1)



THE IMPORTANCE OF HYPE

- Traditional ratings measure what people have watched, but have limited impact on what people *will* watch.
- That is, they are divorced from the “decision moment”.
- Yet, companies spend millions promoting shows and attempting to influence viewer behaviour, both through TV ads and through social media.
- How do we measure that?

oztam
measuring audiences



HYPE ALSO ALLOWS PREDICTIONS

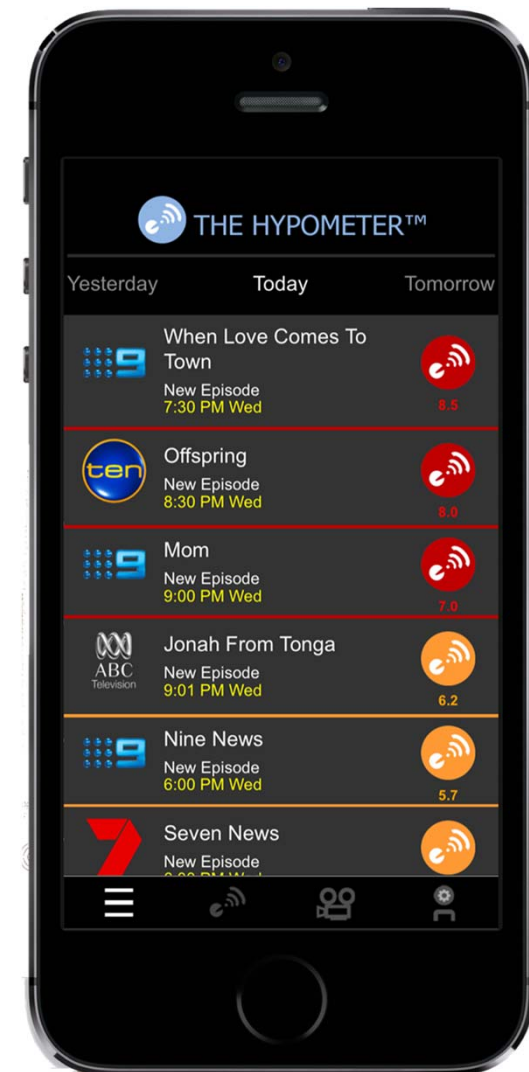
- Hype is a significant input to a prediction algorithm for social media conversation.
- By including hype, and applying other weightings to raw social media statistics, it's possible to significantly improve predictions vs. a rolling average of previous shows.
- Yet, this information still appears to be widely ignored.

Show Name	Love & Hip Hop			Love & Hip Hop
Average Weighted Tweets	181,406.68			
Median Weighted Tweets	184,869.87			
Maximum Weighted Tweets	371,453.11			
Minimum Weighted Tweets	67,141.14			
Avg Weighted Tweets (Last Month):	271,833.11			
Custom Prediction (Optional):			(e.g. Last 2 months)	
Total Shows:	16			
Prediction to use:	Avg Weighted Tweets (Last Month):			271833.1065
New Day	Monday	1.405733		
New Month (e.g. Jan 2014)	Jan 2014	0.752522		
New Network	VH1	0.547759	Previously:	VH1
Growth Factor (Var)	1	1		
Predicted Tweets	157511.9603			

5 Nielsen Twitter TV Ratings						
Daily Top Five 1/06/2014						
RANK	NETWORK	PROGRAM	UNIQUE AUDIENCE (000)	IMPRESSIONS (000)	UNIQUE AUTHORS (000)	TWEETS (000)
1	ABC	The Bachelor	5,876.7	50,492.5	232.6	434.6
2	MTV	Teen Wolf	5,061.0	37,737.7	344.7	920.6
3	USA	WWE Monday Night RAW	2,130.5	12,156.0	63.7	226.1
4	VH1	Love & Hip Hop	1,233.7	7,627.3	63.8	150.3
5	MTV	Wolf Watch	715.7	1,362.3	25.1	36.8

THE HYPOMETER™

- iOS app developed as functional prototype to act as a 'modern TV Guide' for Australian television
- Calculates 'hype' via a proprietary algorithm which accounts for national and industry context
- Ongoing evaluation of both hype figures and predictions vs. post-show TV ratings and social media engagement.
- Clear trend towards 'dynamic' audiences; a proportion of the population on whom broadcasters should focus.



THE BIG BROTHER HYPOMETER™



- Social media as a predictive tool for reality TV
- Social media mentions closely match results of in-show voting: e.g. Lawson & Aisha 51.8% in public vote, separated by a few hundred interactions.
- Twitter mentions of 'track' & housemate name closely mirrored early evictions.
- Analysis continues: see TheConversation.com

Questions?

